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**A Historical Phonology of Western Karaim.
The Process of Its Diversification into Dialects. Part 2.
Supplementary Data on the Absolute
and Relative Chronology of Sound Changes**

Abstract

This article is a supplement to Németh (2015), in which the absolute and relative chronology of the 18th and 19th century Karaim sound changes was presented with the aim of reconstructing how Middle Western Karaim evolved into its two well-known Modern Western Karaim dialects. Most of the conclusions formulated in Németh (2015) are further confirmed in the present article, while a few have been slightly modified.

Keywords: Karaim language, Middle Western Karaim, Modern Western Karaim, chronology of sound changes, historical phonology, Karaim philology, periodization of Karaim

1. Preliminary remarks

In Németh (2015), we established a preliminary time-frame of the sound changes that led to the linguistic partitioning of Western Karaim into its southern and northern dialects. Based on the conclusions made with regard to each sound change, we determined the first periodization of Western Karaim, distinguishing four periods in its evolution: Early Middle, Late Middle, Early Modern, and Modern Western Karaim.¹ This was done while bearing in mind that future research may provide data that would enable us to refine their relative and absolute chronology. In this article we recapitulate the findings

¹ The period prior to the presumed division of Karaim into its Eastern and Western dialects is referred to as Old Karaim. The full argumentation behind this periodization is presented in Németh (2015: 179–182; 2016a: 272–275).

of this “future research”. The textual basis for this supplement is a group of more than 30 manuscripts selected from a larger group comprising nearly 460 items copied in the 17th–20th centuries (see Németh 2016b).

The dialectal differences discussed in the referenced article were assigned to two groups. The main and minor dialectal differences were discussed separately. For the sake of transparency this division will be kept unchanged here.

In the present article we refrain from providing a full linguistic or philological description of the sound changes in question so as not to repeat our argumentation presented elsewhere. Our description of the chronology of these sound changes will therefore be accompanied solely by a basic historical-linguistic commentary with further reading included in the references.

2. The main dialectal differences

The main dialectal differences are shown in the table below (the annotations regarding chronology concern the change indicated in a cell with greyed background; based on Németh 2015: 169):

Table 1. The main dialectal differences between the Western Karaim dialects

	OKar.	Mod.NWKar.	Mod.SWKar.	Time-frame
1.	* <i>ŋ</i>	<i>j, n, ń</i>	<i>n</i>	ended before the late 17 th c.
2.	*vowel harmony	consonant harmony	vowel harmony	from the 2 nd half of the 17 th up until the mid-18 th c.
3.	* <i>š, *ž, *č, *ž</i>	<i>š, ž, č, ž</i>	<i>s, z, c, ʒ</i>	from the mid-18 th c. up until the 1 st half of the 19 th c.
4.	* <i>ö-, *ü-</i>	<i>ö-, ü-</i>	<i>e-, i-</i>	from the mid-18 th c. up until the 1 st half of the 19 th c.
5.	* <i>-ö-, *-ü-</i>	<i>-‘o-, -‘u-</i>	<i>-e-, -i-</i>	
6.	* <i>-ü</i>	<i>-‘u</i>	<i>-i</i>	
7.	*syllable-closing <i>aj</i>	syllable-closing <i>ej</i>	syllable-closing <i>aj</i>	19 th c.
8.	*syllable-closing <i>q</i>	syllable-closing <i>ħ</i>	syllable-closing <i>k</i>	from the late 18 th c. until the late 19 th c.
9.	* <i>-men, *-sen</i>	<i>-myn ~ ńiń, -syn ~ šiń</i>	<i>-men, -sen</i>	late 19 th c.

Ad 1. Our main observation remains valid with regard to the evolution of the velar *ŋ*. All the existing Western Karaim texts clearly confirm that *ŋ* was already absent from the Late Middle Western Karaim phoneme inventory. The most important sources in

this respect are the oldest known Western Karaim texts, among them a religious poem of Icchak ben Abraham Troki (1533–1594) copied in 1686 which has survived up to the present day in ms. Evr I 699 (15 v^o – 16 r^o) and was edited by Jankowski (2014). In them, we can see such forms as, for instance, $\text{jaratuv}\check{c}ujmun$ ‘your creator (gen.)’ (15 v^o) or $\text{jarly}\acute{g}a\check{s}yj$ ‘your mercy’ (15 v^o) with the $\eta > j$ change clearly documented. This group also includes ms. B 263 (28 r^o), already referenced in Németh (2015: 170, 172), which was copied in Hebrew in 1662 and contains a short passage in Karaim added in 1671, more precisely an elegy composed originally in 1649 by Zarach ben Natan (1605–1663). In the present study we have added to the list of the oldest (17th-century) Western Karaim texts the Karaim interpretation (*peshat*) of a Hebrew religious song (*piyyut*) written and copied by Josef ben Shemuel ha-Mashbir (died ca. 1700) which was recently discovered by the present author in ms. JSul.I.01a (118 v^o – 119 v^o). This manuscript was copied in the period between 1685 and 1700 and a sample of it is presented in Németh (2018).

The recently discovered oldest known South-Western Karaim sources dating from the second half of the 18th century (JSul.I.53.13, JSul.III.65) also include no traces of the velar η .

As a consequence, we can only establish a *terminus ante quem* for this sound change, namely, that it must have taken place before the late 17th century.

Finally, it ought to be mentioned that the recently rediscovered manuscript Evr I Bibl 143 from the 15th century (1470–80s) still awaits a comprehensive linguistic and codicological description. First of all, it needs to be confirmed whether it is written in (Old) Karaim or in some other Kipchak Turkic tongue. If the text turns out indeed to be written in Old Karaim (which is probable in light of its content: it is a translation of a large part of the Torah, i.e. from Exodus 21:11 until Numbers 28:15), we would arrive at a *terminus post quem* for this change, given that even a quick glance reveals the presence of the velar η in this work (see, for instance, $\text{an}\check{g}ar$ ‘to him’ (2 r^o)). The manuscript in question was written in the Yevano-Karaitic type of Hebrew script (in what is referred to as the Mashait style). For more information on this topic, see, e.g., Harkavy & Strack (1875: 167–168), and Grishchenko (2018: 172). The latter author was a member of the team that identified the age of the manuscript and corrected the misleading data provided in Harkavy & Strack (1875: 167–168).

Ad 2. Our conclusion regarding the absolute chronology of the harmony shift in North-Western Karaim² presented in Németh (2015: 172) was that in certain areas or idiolects this process began to take hold in the final decades of the 17th century at the latest, although it should be pointed out that it might have begun only as late as the mid-18th century. This timeframe is delimited, on the one hand, by ms. B 263 (28 r^o) (1662/1671) in which the $e > 'a$ change (i.e. the only development clearly reflected in

² This process has been thoroughly described in Németh (2014b), and Stachowski (2015). Readers interested in this topic should thus be redirected to these works. As regards the debate on the phonological and suprasegmental interpretation of this process, see Hamp (1976), Csató (1995, 1999), Nevins & Vaux (2004), and Stachowski (2009).

writing within the framework of the changes that took place as part of the harmony shift) is already attested, and on the other, by two other manuscripts, namely ADub.III.73 (1720/ca. 1720)³ and ADub.III.78 (ca. 1750), in which the forms with *e* and '*a*' (< *e*) coexist and demonstrate a still ongoing harmony shift. The above-mentioned work of Josef ben Shemuel ha-Mashbir (JSul.I.01a copied between 1685 and 1700) also lacks any forms that contain the original *e*, see, for instance, וִירְנִדִּילָר *veṛandīlār* 'are destructed' (JSul.I.01a: 118 v^o), or מֵרַסְלִידִילָר *meṛasladīlār* 'they inherited' (JSul.I.01a: 119 r^o). The latter manuscript is all the more valuable as it is not a copy of an older text but an autograph (cf. our remarks made below regarding the orthography).

In our view, the linguistic data from Evr I 699 (15 v^o) mentioned above further confirm this assertion. Here, we find such forms as נֶסָא *ješa* 'whether' (< *jese*) or נֶסָאֵט *jetša* (< *jetse*) 'if it is enough' that clearly show, in our opinion, the *e* > '*a*' change. Our interpretation is therefore different in this respect to that made by Jankowski (2014: 46), where these words are transcribed *jesā* and *jetsā*. It is certainly true that in Eastern Karaim texts the vowel point *patach* (i.e. the sign used in the second syllables of the examples above), reserved primarily for *a*, was also employed regularly to render *ā* in non-first syllables. However, we are dealing with a different situation in the case of Middle North-Western texts. In the latter variant of Karaim both signs used for recording *a*, i.e. both *patach* and *qamatz*, were applied in the syllables that etymologically correspond to those with EKar. *ā*. Given that there were at least two other vowel points at the disposal of the North-Western Karaim copyists to denote an *e*-type vowel, i.e. *seghol* and *tzere*, we do not adhere to the notion that they used the same two vocalization signs for both an *e*-type vowel and for *a*. This is especially so as we know from Modern Western Karaim that **e* eventually did evolve into '*a*' in non-first syllables.

Ad 3. The next change to be discussed is the SWKar. *š*, *ž*, *č*, *ž* > *s*, *z*, *c*, *z* dealveolarization. The sound pairs *č* vs. *c*, *ž* vs. *z* and *ž* vs. *z* were hardly ever distinguished in writing (for a discussion of the possible reasons for this orthographic practice as well as for the way these sounds were rendered in Hebrew script, see Németh 2014a: 257–258). For this reason, the absolute chronology of this shift can be established exclusively on the basis of the timeframe of the *š* > *s* change. Generally speaking, the Hebrew letters *shin* (שׁ) and *samekh* (ס) were quite consistently used by Karaim copyists to distinguish between *š* and *s*, respectively, which provides us with a quite reliable tool in our research. As far as the process itself is concerned, our view expressed in Németh (2014a: 264) and Németh (2015: 172–173) was that the oldest manuscripts in which the *š* > *s* shift is richly attested date from the beginning of the 19th century. In Németh (2015) we listed mss. JSul.III.03, JSul.III.63, JSul.III.69, and JSul.III.79 as the oldest manuscripts in which the *š* > *s* alternation is recorded. Today, we can say that the recently analysed linguistic material for the most part accords with this statement and we can additionally list JSul.I.54.03, JSul.III.66, and JSul.I.54.12 (all of them copied at the turn of the 19th century, see Table 2) with the *š* ~ *s* alternation documented, see e.g. יַחְשִׁילִיקְלָרִי *jahšylyqlary* 'their goodness'

³ In the years 2014–2018, I carefully read folios 3 r^o – 349 v^o of this manuscript.

(JSul.I.54.03: 1 v^o), יִרְטִילִמִּישְׁלָרְנִי *jaratylmyślarny* ‘creatures (acc.)’ (JSul.III.66: 134 r^o), or אִשְׁפּוּ *ušpu* ‘this; exactly this’ (JSul.I.54.12: 1 v^o).

In the above-mentioned two articles we also suggested that this change could have begun to operate much earlier, possibly before 1772, i.e. prior to the First Partition of Poland. The idea behind this presupposition was that the *š > s* shift must have been triggered before the community in Halych became separated from the other Karaim communities in 1772, given that this change is characteristic of both the Halych and Lutsk varieties of South-Western Karaim (see Németh 2014a: 263 for more details). However, we have no linguistic data to support this hypothesis.

Providing proof would require finding pre-1772 linguistic material from both Halych and Lutsk Karaim in which the *š > s* change is documented. Unfortunately, we do not know of any sources written in Karaim that might have originated from Lutsk and would date from before the beginning of the 19th century. The oldest known manuscripts are a fragment of JSul.I.02 (from 1807) and ms. JSul.I.04 copied in 1814. In both works the original *š* is predominantly retained – with not too many as yet reliable examples of the *š > s* development, see e.g. טוֹחַטָּבְצוּסוּ *tohtavcusu* ‘he who dwells (poss.3.sg.)’ (JSul.I.02: 7 v^o) or אֵסֶקְלֶר *esekler* ‘donkeys’ (JSul.I.04: 1 v^o) compared to יִרְלִיגְשְׁלָבְצוּ *jarlyğašlavču* ‘he who has mercy’ (JSul.I.02: 8 v^o), אִילִישׁ *iliš* ‘part’ (< **ülüš*; JSul.I.02: 8 v^o), יִיחֶשֶׁי *jahšy* ‘good’ (JSul.I.02: 62 r^o), בֵּישׁ *beš* ‘five’ (JSul.I.04: 1 v^o), אֶשְׂמָא *ašama* ‘to eat’ (JSul.I.04: 1 v^o), אִישׁ *iš* ‘work’ (JSul.I.04: 3 v^o).

However, there is one Halych Karaim manuscript from the mid-18th century (ca. 1762), namely JSul.I.53.13, in which the postposition *ašyra* ‘through’ is attested twice with the letter *samekh*, see JSul.I.53.13 (7 r^o, 7 v^o). There is no linguistic or philological reason to reconstruct אֶשְׂרָא as *ašyra*. What is significant to note is that the word is written twice, which rules out the possibility that it could be interpreted as a scribal error. This form is therefore an important indicator that the process could have indeed been triggered much earlier than is suggested by the vast majority of sources. The text in which this word occurs is a translation of the Hebrew religious song (*piyyut*) with the incipit עֵר אֲנִי יִשְׁנָה וְלִבִּי עֹר *ānī yašēnāh wəlibī ēr* (‘I sleep, but my heart is awake’) and the rest of the manuscript is in Hebrew. The identity of the copyist is unclear, but we know that the composer of the Karaim interpretation was Moshe ben Icchak Cic-Ora (died in 1717/1718; see Mann 1931: 1266, fn. 617).

It ought to be emphasized that deciphering the letter *shin* as *š* should be done with caution. The orthography is deceptive in this case given that a large number of South-Western Karaim texts were copied based on versions written in North-Western Karaim in which no *š > s* shift ever took place. During the period when the SWKar. *š > s* change was already an ongoing process, the letter *shin* in a South-Western Karaim text could thus have been the letter *shin* copied without any adjustment made either from an archaic South-Western Karaim text or from a North-Western Karaim text regardless of its age.

The newly analysed material confirms our other observation, namely that the alveolar pronunciation of *š* remained unchanged the longest in loanwords (see Németh 2014a: 257–259 for linguistic examples). Significantly, this concerns not only the Hebrew lexicon

but also Persian loanwords,⁴ which shows that the phenomenon in question was (also) of phonetic (and not only orthographic) nature: In the case of Hebrew loanwords or interpolations we can, of course, treat the orthography (and hence also the letter *shin*) as being left unchanged regardless of the actual pronunciation of the words themselves, but in the case of non-Hebrew loanwords, this argument is invalid.

In the private letters edited in Németh (2011b) we did not encounter any examples of the original *š* being preserved. The documents in question were issued between 1841 and 1923 and the varieties of Karaim they were written in are much closer to colloquial than literary Karaim. Those letters were authored by men born between 1797 and 1857 (Németh 2011b: 19–20) who were not professional copyists. There thus appears some justification in the argument that the dentalization process must have ended in the first decades of the 19th century at the latest. At the same time, we can find examples in which the letter *shin* was used to denote the sound which etymologically can be traced back to *š* in mss. JSul.I.01c, JSul.III.07, JSul.III.76, JSul.I.16, and JSul.III.64b, i.e. in religious manuscripts copied by clergymen trained in calligraphy in the second half of the 19th or even in the first half of the 20th century (see Table 2). These may be interpreted as efforts to copy as accurately as possible religious texts written in an archaic variant of the language and thus keeping the orthography unchanged.⁵

Table 2. Continuants of OKar. *š* in South-Western Karaim⁶

Accession №	Date of copy	$\dot{s} \geq \dot{s}$	$\dot{s} \sim s$	$(\dot{s}) \sim s$	$\dot{s} > s$
JSul.I.53.13	mid-18 th c. (ca. 1762)	+	(+)		
JSul.I.01b	2 nd half of the 18 th century	+			
JSul.III.63	ca. 1778 (before 1797)	+			
JSul.I.38.09	turn of the 19 th century	+			
JSul.I.54.03	turn of the 19 th century	+	(+)		
JSul.III.66	turn of the 19 th century	+	(+)		
JSul.III.03	shortly after 1805		+	+	
JSul.I.02	1807		+		

⁴ The most common are *aškara bol-* ‘to appear’, *dušman* ‘enemy’, *fašmanly* ‘wicked’, *šahar* ‘city’, and *tamaša* ‘wonder’.

⁵ It is important to mention that JSul.III.03 is the oldest document I know of in which the letter *shin* is consistently used for denoting *s* in front of syllables containing *i* (see Table 2). The fact that this phenomenon co-occurs with the $\dot{s} > s$ change (with almost no exceptions) corroborates our hypothesis put forward in Németh (2014a: 258), namely that the letter *shin* was used to render [š] in this position (and not [š̌] or [s]).

⁶ In the table, “+” indicates that the respective linguistic feature is abundantly and reliably documented, whereas “(+)” means that the feature is recorded only in one or a few examples. The table shows whether the original *š* is retained (column $\dot{s} \geq \dot{s}$), or whether it alternates with *s* (column $\dot{s} \sim s$), or whether it is retained in loanwords, only (column $(\dot{s}) \sim s$), or, finally, whether it has been completely replaced with the dental *s* (column $\dot{s} > s$).

Table 2. (cont.)

Accession №	Date of copy	$\check{s} \geq \check{s}$	$\check{s} \sim s$	$(\check{s}) \sim s$	$\check{s} > s$
JSul.I.04	1814		+		
JSul.I.54.12	early 19 th century	+	(+)		
JSul.I.45	1 st half of the 19 th century			+	(+)
JSul.I.46	1 st half of the 19 th century			+	(+)
JSul.VII.22.02.13	1 st half of the 19 th century	+	(+)		
JSul.III.67	after ca. 1840 (before 1851)	+	+	+	
JSul.III.64a	between 1840 and 1851				+
JSul.III.72	before 1851	+	+		(+)
ADub.III.61	1850/1851			+	+
JSul.III.73	mid-19 th century			+	
JSul.I.37.02	mid-19 th century		+		
JSul.I.54.09	mid-19 th century			+	
JSul.III.69	ca. 1851 (1866 the latest)			+	+
JSul.I.37.03	between 1851 and 1866				+
JSul.III.79	ca. 1851 (1866 the latest)			+	+
JSul.III.77	between 1856 and 1866			+	
JSul.I.01c	2 nd half of the 19 th century			(+)	+
JSul.III.07	2 nd half of the 19 th century			(+)	+
JSul.III.76	2 nd half of the 19 th century			(+)	+
JSul.I.16	19 th /20 th century			(+)	+
JSul.III.64b	1 st half of the 20 th century			(+)	+

Given the lack of philological evidence, we can merely hypothesize that the $\check{z} > z$, $\check{c} > c$, and $\check{z} > z$ changes took place in the same time period.

Ad 4–6. Let us now summarize what we know regarding the time-frame of the $\ddot{o} > e$, $\ddot{u} > i$ shift. In Németh (2015: 174) we concluded that these two changes began to function most probably in the final decades of the 18th century and came to an end presumably around 1800 – with the same reservations expressed in point 3 above, namely that this process might also have been triggered before the First Partition of Poland (for the same reasons as those set out above).

Today we can say a little more regarding this chronology. Since the time the referenced article was written we have had the good fortune to analyse further manuscripts from the beginning and first half of the 19th century in which the $\ddot{o} \sim e$ and $\ddot{u} \sim i$ alternations are still visible (these vowels are clearly distinguished in vocalized texts), namely, JSul.I.37.02, JSul.I.38.09, JSul.I.54.12, JSul.I.45, JSul.I.46, JSul.III.72, JSul.III.73, with the latest originating from the mid-19th century.

It is therefore safer to say that the delabialization of the front labials ended in the first decades of the 19th century, while once more bearing in mind that the orthography might be conservative and hence also deceptive in this case. Nevertheless, it is important to note that this still tallies with the linguistic data of the above-mentioned South-Western Karaim colloquial texts presented in Németh (2011b), in which there is clearly no evidence of the MSWKar. \ddot{o} , and \ddot{u} (see, primarily, Németh 2011b: 18–20, 22). For the time being, the most recent source from Halych in which we still find examples of \ddot{o} , \ddot{u} (alternating with the dominant e , i) is probably JSul.III.73 dating from the mid-19th century.

Additionally, it is interesting to note that in JSul.I.04, i.e. a manuscript copied in Lutsk in 1814 by Jaakov ben Icchak Gugel (it is a South-Western Karaim translation of the Book of Job), the MSWKar. \ddot{o} -s, and \ddot{u} -s are regularly preserved, see, e.g. $\gamma\iota\alpha \ddot{u}\check{c}$ ‘three’ (1 r^o), $\kappa\iota\eta\eta\lambda\iota\gamma\iota k\ddot{u}nleri$ ‘days (poss.3.sg.)’ (2 r^o), $\alpha\iota\iota\tau\iota\tau\iota\alpha\iota \ddot{u}st\ddot{u}ne$ ‘(postp.) on (dat., poss.3.sg.)’ (20 r^o), $\kappa\iota\omega\lambda\iota\gamma\iota k\ddot{o}zler$ ‘eyes’ (80 r^o), $\varsigma\omega\lambda\epsilon\gamma\iota\delta\iota s\ddot{o}zle\gamma\iota\delta\iota$ ‘says’ (100 r^o), $\varsigma\omega\lambda\epsilon\gamma\iota\delta\iota s\ddot{o}zleri$ ‘words (poss.3.sg.)’ (100 r^o). This raises the possibility that in some idiolects of the Lutsk variety of South-Western Karaim, the \ddot{o} , $\ddot{u} > e$, i process may have survived longer or may have been triggered later than in Halych. To a certain extent this is supported by the fact that in JSul.I.37.02, i.e. a manuscript which most probably originates from mid-19th-century Lutsk, also includes $\ddot{o} \sim e$, and $\ddot{u} \sim i$ alternations, see for instance $\gamma\iota\gamma\iota\gamma\iota\gamma\iota j\ddot{u}regim$ ‘my heart’ and $\iota\eta\eta\eta\eta inin$ ‘his voice’ (< $\ddot{u}n\ddot{u}n$) (JSul.I.37.20: 6 v^o). One important factor we should mention here is that after 1772 the communities in Lutsk and Troki remained in one state (in Poland) until the Third Partition in 1795 and after that both became a part of the Russian Empire. It is, therefore, perhaps not entirely far-fetched to say that the more intense contacts between the North-Western Karaim speakers of Lithuania (NWKar. \ddot{o} , \ddot{u} were/are preserved, in the word-initial position, until Modern Western Karaim period), the Eastern Karaims of Crimea (\ddot{o} , \ddot{u} were preserved in Crimean Karaim, too, see Prik 1976: 25–28), and the South Western Karaims of Lutsk – i.e. all the Karaims who lived within the borders of the Russian Empire – may have slowed down the elimination of the front labial \ddot{o} and \ddot{u} from South-Western Karaim in Lutsk. For the time being, however, we are far from being able to say anything certain in this respect. For instance, in JSul.I.02 from 1807 (see 2.1 above) and in JSul.I.50.06, i.e. in a manuscript copied in Lutsk by an unknown person ca. 1815, the MSWKar. \ddot{o} and \ddot{u} are not retained, see e.g. $\iota\eta\iota\iota\iota\iota ili\check{s}$ ‘part’ (< $*\ddot{u}l\ddot{u}\check{s}$; JSul.I.02: 8 v^o) or $\kappa\iota\eta\eta\eta\eta kere$ ‘(postp.) according to’ (< $*k\ddot{o}re$; JSul.I.02: 9 v^o).

The year 1772 is also pivotal in one more respect. As argued in point 3 above, given that the delabialization in question affected both Halych and Lutsk Karaim, and given that the elimination of \ddot{o} and \ddot{u} from the sound system took place in both areas precisely in

the same way, it is perhaps valid to speculate that this process, too, began prior to 1772. This is supported by ms. JSul.I.53.13, in which we find one erroneous (hypercorrect) form in which the labial *ö* is confused with the expected *e*, namely יִרְיִמְדִין *jörimden* (< *jerimden*) ‘from my place’ (JSul.I.53.13: 7 r^o). Such an error might suggest that the copyist was unable to rely on his own feel for the language in order to reconstruct the etymologically correct form, because the position of the sound in question in the South-Western Karaim phonological system was already weakened.

Table 3. The continuants of OKar. *ö, ü* in South-Western Karaim⁷

Accession №	Date of copy	<i>ö, ü</i>	<i>ö ~ e, ü ~ i</i>	<i>e, i</i>
JSul.I.53.13	mid-18 th c. (ca. 1762)	+	(+)	
JSul.I.01b	2 nd half of the 18 th c.	+		
JSul.III.63	ca. 1778 (before 1797)	+		
JSul.I.38.09	turn of the 19 th c.	+	(+)	
JSul.I.54.03	turn of the 19 th c.	+	(+)	
JSul.III.66	turn of the 19 th c.	+	(+)	
JSul.III.03	shortly after 1805		+	
JSul.I.02	1807			+
JSul.I.04	1814	+		
JSul.I.54.12	early 19 th c.	+	(+)	
JSul.I.45	1 st half of the 19 th c.		+	
JSul.I.46	1 st half of the 19 th c.		+	
JSul.VII.22.02.13	1 st half of the 19 th c.			+
JSul.III.67	after ca. 1840 (before 1851)			+
JSul.III.64a	between 1840 and 1851			+
JSul.III.72	before 1851	+	(+)	
ADub.III.61	1850/1851			+
JSul.III.73	mid-19 th c.		+	
JSul.I.37.02	mid-19 th c.		+	
JSul.I.54.09	mid-19 th c.			+
JSul.III.69	ca. 1851 (1866 the latest)			+

⁷ Similarly to Table 2 above, in this table “+” indicates that the respective linguistic feature has been extensively and reliably documented, whereas “(+)” stands for a feature recorded only in a few examples.

Accession №	Date of copy	<i>ö, ü</i>	<i>ö ~ e, ü ~ i</i>	<i>e, i</i>
JSul.I.37.03	between 1851 and 1866			+
JSul.III.79	ca. 1851 (1866 the latest)			+
JSul.III.77	between 1856 and 1866			+
JSul.I.01c	2 nd half of the 19 th c.			+
JSul.III.07	2 nd half of the 19 th c.			+
JSul.III.76	2 nd half of the 19 th c.			+
JSul.I.16	19 th /20 th c.			+
JSul.I.54.15	turn of the 20 th c.			+
JSul.III.64b	1 st half of the 20 th c.			+

Ad 7. We have no additional data at our disposal regarding the chronology of the MNWKar. *aj* > *ej* change. Our recent research confirms that the oldest documentation of this phonotactic tendency dates back to the second half of the 19th century (see Németh 2015: 174–175). There is, however, one important remark that should be made here. If we turn to the folios 284 r^o – 285 r^o of ms. ADub.III.78 (ca. 1750), we find such forms as ןאג׳ד״א׳ןל׳ן׳ *juqlajdoğan* ‘sleeping’ (< *juqlajdoğan*), or ״בול׳ג׳ *bolgej* ‘let it be (opt.)’ (< *bolğaj*) (27:19), which are, at first glance, perfect 18th-century examples of the process being discussed here. But this particular text was vocalized according to North-Western Karaim standards later than when the main text was written and hence we cannot treat such data as reliable (see also point 9 below).⁸ We did not encounter any forms with the *aj* > *ej* change in ms. JSul.I.01a, either.

Ad 8. From the data on Modern Western Karaim we know that the NWKar. velar *q* underwent spirantization ($q > \text{h}$) in the syllable-closing position and suffix-initially.⁹ Indeed, there are sources dating from the second half of the 19th century in which the fricative pronunciation of *q* is clearly and abundantly attested (see e.g. the linguistic material of ADub.III.68 and JSul.III.31 quoted in Németh 2015, or that of JSul.I.11). Nevertheless, in Németh (2015: 175) we expressed the view that this spirantization might be, in fact, a much older phenomenon, dating from as early as the 18th century.¹⁰

⁸ For this reason, these forms were disregarded in Németh (2015).

⁹ In some words (e.g. in NWKar. *jaḥsy*, SWKar. *jaḥsy*), the *q > ḥ* spirantization is an inherited Old Karaim or Kipchak feature (see von Gabain 1959: 54). However, this only concerns a limited number of lexemes.

¹⁰ In Western Karaim texts written in Hebrew script, the velar *q* was represented by the letter *qoph* (ק), whereas the unvoiced velar fricative *ħ* was predominantly rendered by the letter *chet* (ח) or a *qaph* with a *raphe* (ך). Hence, orthographic means were indeed available to introduce a clear distinction between these two sounds.

The latter thesis is supported by the oldest attestation of this process recently found in ms. RAbk.IV.15 (between ca. 1778 (or 1792) and 1797),¹¹ see, for instance, NWKar. *יִזְיָהֻלִּי jazyhly* ‘sinful’ (< *jazyqly*) (RAbk.IV.15: 49 r^o), *חַנְלִיָּהֻלְרָדָא ḥanlyhlarda* ‘in kingdoms (loc.)’ (< *ḥanlyqlarda*) (RAbk.IV.15: 49 r^o), or *טַרְלִיָּהֻטַן tarlyhtan* ‘from misery (abl.)’ (< *tarlyqtan*) (RAbk.IV.15: 50 r^o). The reader’s attention should be drawn to the notation of *h*: the combination of *qoph* + *raphe*, i.e., *q̄*, has not, as far as we know, been described yet in the scholarly literature on Western Karaim.

Ad 9. For the reasons mentioned in point 7 above we cannot treat as reliable examples with the NWKar. *-min* ~ *-myn* 1st person marker found in ADub.III.78 in place of the original *-men*. Our view in Németh (2015: 176) remains valid: these forms occurred in the second half of the 19th century.

3. Minor dialectal differences

Minor dialectal differences are shown in the table below (based on Németh 2015: 176):

Table 4. Minor dialectal differences between the Western Karaim dialects

	MWKar.	Mod.NWKar.	Mod.SWKar.	Time-frame
10.	<i>ti, di</i>	<i>ti, di</i>	<i>ti, di</i> ~ <i>ki, gi</i>	from the 1 st half of the 19 th c. until the 2 nd half of the 19 th c. (?)
11.	<i>qy</i>	<i>ky</i>	<i>ky</i> ~ <i>kē</i>	mid-19 th c.
12.	<i>l, l</i>	<i>l̃, l</i>	<i>l, l (le)</i>	late 19 th c. (?)
13.	<i>ll</i>	<i>l̃l̃ ~ ḥl̃ (> ḥl̃)</i>	<i>ll</i>	late 19 th c. (?)
14.	<i>ll</i>	<i>ll ~ ḥl (> nl)</i>	<i>ll</i>	
15.	<i>jj</i>	<i>jj ~ ḥj (> ḥj)</i>	<i>jj</i>	

Ad 10. So far, the /*ti, di* / ~ /*ki, gi* / alternation was known from sources dating from not earlier than the second half of the 19th century. Examples of this phenomenon found in recent years come from texts dating from not earlier than 1850, too. Nevertheless, we

¹¹ The manuscript in question consists of handwritten passages of varying age. The age of the one discussed here can be determined on the basis of the Hebrew headings introducing the Karaim translation of two *zemirot* (paraliturgical poems). In one of them (folio 49 r^o) Josef ben Moshe ben Shemuel ben Josef ha-Mashbir is mentioned as a living person whereas his father, i.e. Moshe, is referred to as a person who had already passed away. Moshe bears the title *hazzan* in Halych, which fact narrows down the list of possible persons to one, i.e. Moshe ben Shemuel ben Josef ha-Mashbir who died ca. 1778 (see Mann 1931: 756, 1351) or in 1792 (see Zarachowicz 1935: 23, Gąsiorowski 2008: 456). In another heading (45 v^o), Jeshua ben Mordechai Mordkowicz, who died in 1797, is referred to as a living person. In both cases, cf. the abbreviations *נר״ו nrw* and *נב״ת nbt* used standing for *נַפְתָּרְיָה רַחֲמָנָא נַפְתָּרְיָה nāṭrēyh raḥāmānā vāpharqēyh* ‘may God protect him and save him’ and *נַפְשׁוֹ בַּגֶּן תְּלִין ~ נַפְשׁוֹ בַּגֶּן תְּלִין naphšō baḡhan tālīn ~ naphšō bā ʿēdhen tālīn* ‘may his soul lodge in Eden’, respectively.

managed to locate two such examples in manuscripts JSul.I.45 and JSul.I.46 copied most probably in the first half of the 19th century, namely: טִיזְלֵר *tijizler* ‘felts’ (< *kijizler*) (JSul.I.45: 139 r^o) and כִּטְרֵיבִיק *kitrevik* ‘shiver’ (< *titrevik*) (JSul.I.46: 96 r^o), respectively. Although the age of these manuscripts cannot be determined accurately, we do know that their copyist, Jeshua Josef Mordkowicz, was born in 1802. Hence, they could not have been written earlier than, say, the 1830s. For the time being this is the oldest known record of this linguistic feature. The fact that Jeshua Josef Mordkowicz lived in Halych for decades accords with the observation that the *ti, di > ki, gi* change was primarily characteristic of the Halych variety of South-Western Karaim (see Németh 2011a: 84–85).

Ad 11. We have found only one additional form that enables us to narrow down the time-frame of the SWKar. *ky ~ kè* alternation. It is the word *kez* ‘eye’ written as כִּז *kyz* in ADub.III.61 (136 v^o). Previously, our oldest examples came from the early 20th century (see Németh 2015: 177).

Ad 12. Hebrew script includes no orthographic means of distinguishing between the South-Western Karaim dental *l* and the alveolar *l*. However, in some of the 18th-century sources we find a few interesting forms of the word *tefila* ‘prayer’, which suggest that the liquid consonant of this Hebrew loanword was produced differently than the (most probably dental) *l* of the native lexicon. These are תְּפִלָּהִיר *tefilaler* ‘prayers’ (JSul.I.54.03: 2 r^o), תְּפִלָּה־מִדִּיא *tefilamde* ‘in my prayer (loc.)’ (JSul.I.01b: 129 v^o), and תְּפִלָּה־מִיִּיא *tefilame* ‘to my prayer (dat., poss.1.sg.)’ (JSul.I.53.13: 7 v^o). In these forms, the possibly alveolar *l* was perhaps perceived as a functionally palatal consonant and this was the reason for the vowel change in the suffix and for the disruption in vowel harmony. This phenomenon is known from other Turkic languages, too.

However, we have, no data from NWKar. at our disposal, so we cannot say anything decisive as to the dialectal differences.

Ad 13–15. We have found no data for the dissimilation of NWKar. *ll*, *ll*, and *jj* older than the late-19th-century examples quoted in Németh (2015: 178–179).

4. Closing remark

The orthography of religious texts was certainly conservative to some extent (most of the pre-19th-century texts are of religious content), and this fact should certainly be taken into consideration when establishing the time-frames of sound changes – even though it is difficult to measure the time needed for a sound-change to be reflected in the orthography. For this reason, some of the changes described above could have been in progress much earlier than is suggested by the philological data.

In the present article the oldest known Western Karaim sources have been taken into consideration. If we wish to answer further questions or to dispel the doubts raised in both Németh (2015) and the present article, future archival research should concentrate above all on finding more pre-18th-century Western Karaim sources or further texts that would be closer to the colloquial language and at the same time older than the early 19th century.

Abbreviations

EKar. = Eastern Karaim | **MNWKar.** = Middle North-Western Karaim | **Mod.NWKar.** = Modern North-Western Karaim | **Mod.SWKar.** = Modern South-Western Karaim | **MSWKar.** = Middle South-Western Karaim | **NWKar.** = North-Western Karaim | **OKar.** = Old Karaim | **SWKar.** = South-Western Karaim

Referenced primary sources

- ADub.III.61 = A prayer book in Hebrew and South-Western Karaim. Copied in 1850/1851 in Halych by Jeshua Josef Mordkowicz (1802–1884). 141 + 145 folios.
- ADub.III.68 = A collection of religious texts in North-Western Karaim. Copied in years 1881–1882 by Semjon Osipovič Chorčenko (Семенъ Осиповичъ Хорченко) in Troki. 64 folios.
- ADub.III.73 = A translation of the Torah (copied between 25 Mar 1720 and 31 May 1720), as well as the Book of Ruth, the Book of Jeremiah, Ecclesiastes, and the Book of Esther (copied after 31 May 1720, before 27 Mar 1723) into North-Western Karaim. Copied in Kukizów by Simcha ben Chananel (died 1723). 385 folios.
- ADub.III.78 = A prayer book in with South-Western and North Western Karaim additions. The work of several copyists created in the 18th and 19th centuries (ca. 1750 the earliest, see folios 118 v^o and 251 v^o). Several manuscripts bound together. Copied in Halych and probably Lutsk. 625 folios.
- B 263 = The work *Bet Avraham* in Hebrew written in 1662 in Troki by Abraham ben Yoshiyahu (1636–1667) with a short North-Western text added in 1671 (a dirge (*qinah*) of Zarach ben Natan). Stored in the Institute of Oriental Manuscripts of the Russian Academy of Sciences in Saint Petersburg.
- Evr I Bibl 143 = A translation of the books of Exodus (from Exo 21:11 on), Leviticus, and Numbers (until Num 28:15), copied most probably in the 15th century. Written in a Kipchak Turkic language, possibly Old Karaim. Stored in the National Library of Russia in Saint Petersburg. Full text available online at: http://web.nli.org.il/sites/NLI/English/digitallibrary/pages/viewer.aspx?presentorid=MANUSCRIPTS&docid=PNX_MANUSCRIPTS000151708-1#|FL38639157 (accessed 8 Oct 2017).
- Evr I 699 = A commentary on the precepts of faith written by Icchak ben Abraham Troki in Hebrew and North-Western Karaim. Stored in the National Library of Russia in Saint Petersburg. Copied by a person called Mordechai ben Icchak, perhaps Mordechai ben Icchak Łokszyński (died before 1709). 18 folios. Full text available online at: http://web.nli.org.il/sites/NLI/English/digitallibrary/pages/viewer.aspx?&presentorid=MANUSCRIPTS&docid=PNX_MANUSCRIPTS000151518-1#|FL38617465 (accessed on 1 Nov 2017).
- JSul.I.01 = A prayer book written in Hebrew, South-Western and North Western Karaim. The work of many copyists created in the 17th–19th centuries and later bound together. JSul.I.01a was copied between 1685 and 1700 in Halych by Josef ha-Mashbir ben Shemuel ha-Rodi (ca. 1650–1700). JSul.I.01b was copied in the 2nd half of the 18th century in Halych by Mordechai ben Shemuel (died 1765). JSul.I.01c was copied in 2nd half of the 19th century by Jeshua Josef Mordkowicz (1802–1884). Copied most probably in Kukizów, Halych, and Lutsk. 318 folios.
- JSul.I.02 = A collection of paraliturgical poems (*zemirot*) in Hebrew, Karaim, and Polish. Copied in the 19th century (between 1807 and 1832; with later additions) in Lutsk by Mordechai ben Josef of Lutsk. 289 folios.
- JSul.I.04 = A South-Western Karaim translation of the Book of Job. Copied in 1814 in Lutsk by Jaakov ben Icchak Gugel. 126 folios.
- JSul.I.16 = A prayer book in Hebrew, and South-Western Karaim. Copied at the turn of the 20th century in Halych by an unknown person. 456 folios.

- JSul.I.37.02 = A collection of religious songs in Hebrew with one translation into South-Western Karaim. Copied in the 19th century by an unknown person, most probably in Lutsk (the paper and its shape is characteristic of Lutsk). 8 folios.
- JSul.I.37.03 = A fragment of a collection of religious songs (*piyyutim*) in Hebrew and South-Western Karaim. Copied between 1851 and 1866 in Halych by a nephew of Abraham ben Levi Leonowicz (born 1776, died 1851). 16 folios.
- JSul.I.38.09 = A collection of prayers and religious songs in Hebrew and South-Western Karaim. Copied at the turn of the 19th century most probably in Halych by an unknown person. 6 folios.
- JSul.I.45 = A payer book in Hebrew and South-Western Karaim. A copy of volume 1 of *Siddur* 1528/1529 bound together with handwritten additions copied in the 1st half of the 19th century (after ca. 1830) in Halych by Jeshua Josef Mordkowicz (1802–1884). 103 + 153 folios.
- JSul.I.46 = A prayer book written in Hebrew and South-Western Karaim. A copy of volume 4 of *Siddur* 1528/1529 bound together with handwritten additions copied in the 1st half of the 19th century (after ca. 1830) in Halych by Jeshua Josef Mordkowicz (1802–1884). 147 + 111 folios.
- JSul.I.53.13 = A remnant of a prayer book written in Hebrew and South-Western Karaim: the page 59 of the printed *Siddur* 1737 bound together with 10 folios of handwritten text copied in the mid-18th century (probably ca. 1762) by an unknown person most probably in Halych. 1 + 10 folios.
- JSul.I.54.03 = A collection of religious songs in Hebrew and South-Western Karaim. Copied at the turn of the 19th century by an unknown person most probably in Halych. 5 folios.
- JSul.I.54.09 = A South-Western Karaim interpretation (*peshat*) of a Hebrew religious song (*piyyut*). Copied in the mid-19th century in Halych by Jeshua Josef Mordkowicz (1802–1884). 1 folio.
- JSul.I.54.12 = Two South-Western Karaim translations of Hebrew religious songs. Copied in the early 19th century in Halych by an unknown person. 3 folios.
- JSul.III.03 = A prayer book written in Hebrew and South-Western Karaim. A copy of volume 1 of *Siddur* 1737 bound together with handwritten additions copied shortly after 1805 in Halych by an unknown person. 122 + 120 folios.
- JSul.III.07 = A prayer book written in Hebrew and South-Western Karaim. A copy of volume 1 of *Siddur* 1737 bound together with handwritten additions copied in the 2nd half of the 19th century in Halych by Jeshua Josef Mordkowicz (1802–1884) (except 1 folio). 209 + 125 folios.
- JSul.III.31 = Handwritten additions in Hebrew and north-western Karaim from the second half of the 19th century added to a printed prayer book consisting of two parts published in 1868 and 1872. 180 + 349 + 45 folios.
- JSul.III.63 = A prayer book written in Hebrew and South-Western Karaim. A copy of volume 1 of *Siddur* 1737 bound together with handwritten additions copied ca. 1788 (1797 the latest) in Halych by Jeshua ben Mordechai Mordkowicz (died 1797). 169 + 39 folios.
- JSul.III.64 = A prayer book written in Hebrew and South-Western Karaim. The copies of volumes 2 and 3 of *Siddur* 1737 bound together with handwritten additions written between the 1st half of the 19th century and 1938 by one of the brothers of Jeshua Josef Mordkowicz (1802–1882) (folios 1 r^o – 17 v^o, 26 r^o – 31 v^o) and Abraham ben Icchak Josef Leonowicz (born 1857, died 1938). 168 pages + 56 folios + 31 folios.
- JSul.III.65 = 18th-century manuscript written in Hebrew and South-Western Karaim bound together with *Siddur* 1737. Contains various religious works, among them a South-Western translation of the Book of Esther. On the folio קכא verso there is an annotation with the date 10 Tevet 5553 A.M., i.e. 25 December 1792. 214 + 22 folios.
- JSul.III.66 = A prayer book written in Hebrew and South-Western Karaim. A copy of volume 3 of *Siddur* 1737 bound together with handwritten additions copied at the turn of the 19th century in Halych by two unknown copyists. 106 + 188 folios.
- JSul.III.67 = A prayer book written in Hebrew and South-Western Karaim. Copied after ca. 1840 and before 1851 in Halych by an unknown copyist, perhaps Josef b. Icchak Szulimowicz (born before 1830, died 1883). 271 folios.

- JSul.III.69 = A prayer book written in Hebrew and South-Western Karaim. Most of its parts copied ca. 1851 (1866 the latest) in Halych by Jeshua Josef Mordkowicz (1802–1884) (except some fragments in Hebrew). 779 folios.
- JSul.III.72 = A prayer book written in Hebrew and South-Western Karaim. Copied in the 1st half of the 19th century (before 1851) in Halych by Jeshua Josef Mordkowicz (1802–1884). 261 folios.
- JSul.III.73 = A prayer book written in Hebrew and South-Western Karaim. A copy of volume 2 of *Siddur* 1737 bound together with handwritten additions copied in the mid-19th century in Halych by Jeshua Josef Mordkowicz (1802–1884). 114 + 140 folios.
- JSul.III.76 = A prayer book written in Hebrew and South-Western Karaim. Copied in 2nd half of the 19th century in Halych by Jeshua Josef Mordkowicz (1802–1884). 244 folios.
- JSul.III.77 = A prayer book written in Hebrew and South-Western Karaim. Copied between 1856 and 1866 in Halych by Jeshua Josef Mordkowicz (1802–1884). 336 folios.
- JSul.III.79 = A prayer book written in Hebrew and South-Western Karaim. Copied ca. 1851 (1866 the latest) in Halych by Jeshua Josef Mordkowicz (1802–1884). 391 folios.
- JSul.VII.22.02.13 = A South-Western Karaim translation of a religious song. Copied in the 1st half of the 19th century by an unknown person. The place of creation of this manuscript is unknown. 1 folio.
- RABk.IV.15 = A prayer book in Hebrew and North-Western Karaim. The work of many copyists. Copied between the end of the 18th century and the 1st half of the 19th century. The place of creation of this manuscript is unknown. 183 folios.
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